FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 20-05-2015**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 17-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**96.10**	95-100
26.50	**---**	-
22.40	**75.00**	60-80
11.20	**44.20**	40-60
4.75	**39.10**	25-40
2.36	**24.00**	15-30
0.600	**19.30**	8-22
0.075	**3.00**	0-8

*As Furnished by Client

The Results relate only to the items tested

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

20/05/15
Dr. MANJESH .L
ME (Civil Engg.), Ph.D, MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e-mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
★ ★ ★ ★ ★
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 26-05-2015**

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 23-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**96.10**	95-100
26.50	**---**	-
22.40	**75.00**	60-80
11.20	**44.20**	40-60
4.75	**39.10**	25-40
2.36	**24.00**	15-30
0.600	**19.30**	8-22
0.075	**3.00**	0-8

*As Furnished by Client

The Results relate only to the items tested

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

26/5/2015
Dr. MANJESH .L
ME (Civil Engg .). Ph D MISTE MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/

Date: 20-06-2015

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: Testing of Bitumen Premix Sample. (Semi Dense Bituminous Concrete).
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 15-06-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TEST RESULTS :

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.02 %**

2.Gradation Test :

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-15 of MORTH Specfications-2001 (Grading – 2)
13.2	**100.00**	100
9.5	**95.60**	90—100
4.75	**44.00**	35—51
2.36	**26.30**	24—39
1.18	**19.60**	15—30
0.3	**16.30**	09—19
0.075	**5.90**	03—08

*As Furnished by Client.

The Results relate only to the items tested

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg) Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15

1. TEST REPORT ON CEMENT:

Date: 21-05-2015

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 12-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla
Grade * : 53
Type * : OPC
Date : 13-05-2015 to 20-05-2015

SL No	Name of Test	Results	Requirements as per IS 12269-1987
		Cement Sample	
1	Initial setting time	**160min**	Shall not be less than 30 min
2	Final setting time	**263min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.90**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.70mm**	Shall not be more than 10 mm
5	Compressive strength c) 3 days (average of three results) d) 7 days (average of three results)	**28.20 N/ Sq mm** **42.80 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

*As Furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg .), Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15

1. TESTING OF COARSE AGGREGATES (40 mm): **Date: 15-05-2015**

Sub: Testing of Coarse Aggregates.
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 12-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	40 mm Sample	*Single size*	*Graded*
40mm	98.30	85-100	95 – 100
20mm	64.30	0 -20	30- 70
10mm	21.50	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	Results	**Requirements** as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	As above	15.60 %	Not to exceed 25 %
2.	Crushing value	----,,----	26.10%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As Furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg.), Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e-mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15

1. TESTING OF FINE AGGREGATES : **Date: 15-05-2015**

Sub: Testing of Fine Aggregates
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 12-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	98.80	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	86.80	60-95	75-100	85-100	
01.18	76.50	30-70	55-90	75-100	
600. mic	46.20	15-34	35-59	60-79	
300.mic	24.50	5-20	8-30	12-40	
150.mic	3.10	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Silt Content	001	1.53%	Not more than 8%
2.	Specific Gravity	----	2.61	-------

*As Furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg.), Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e-mail: manjesh@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 15-05-2015**

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 12 mm.
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 12-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TABLE – 1

SL No	Details	For 12mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**12.0mm**	12.0mm
02	Observed Wt/m Length **Kg/m**	**0.890**	0.834
03	Proof stress/Yield stress, fy , **N/mm^2**	**558.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**19.60**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**623.0**	545.0

*As furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg.), Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15

DATE: 25-06-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Improvements to Road and Drains at Suryodaya Layout Main Road in Ward No.05 in Chokanahalli Village Limits}

Ref. : Letter No. Testing/BUB/2014-15, dated 24-06-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-05-15	24-06-15	28	22500	550	24.44	**24.22**
	002	"	"	"	"	545	24.22	
	003	"	"	"	"	540	24.00	

*As Furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg.), Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 22-05-2015**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to Road and Drains at Suryodaya Layout Cross Road in Ward No.05, Byatarayanapura Sub-Division}

Ref. : Letter No. Testing/BUB/2014-15, dated 18-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**95.80**	95-100
26.50	**---**	-
22.40	**74.00**	60-80
11.20	**43.20**	40-60
4.75	**38.70**	25-40
2.36	**26.10**	15-30
0.600	**18.50**	8-22
0.075	**2.90**	0-8

*As Furnished by Client

The Results relate only to the items tested

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg .). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 25-05-2015**

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to Road and Drains at Suryodaya Layout Cross Road in Ward No.05, Byatarayanapura Sub-Division}

Ref. : Letter No. Testing/BUB/2014-15, dated 22-05-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.Sambashiva, Contractor, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**95.80**	95-100
26.50	**---**	-
22.40	**74.00**	60-80
11.20	**43.20**	40-60
4.75	**38.70**	25-40
2.36	**26.10**	15-30
0.600	**18.50**	8-22
0.075	**2.90**	0-8

*As Furnished by Client

The Results relate only to the items tested

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg) Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail. manjeshl@yahoo.com